JOURNALSCAN

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Editor, JournalScan

ISCHAEMIC HEART DISEASE

HRT seems to have short term risk for long term gain: The HERS trial did not show an overall cardiovascular benefit for hormone replacement therapy (HRT) over five years, but suggested an initial early risk, followed by a reduced risk of cardiac events in years 2–5. The new data from 2489 nurses with proven atherosclerotic disease in the nurses health study suggests the same, with recurrent cardiac events occurring with a relative risk (RR) of 1.25 (95% confidence interval (CI) 0.78 to 2.00) compared with never users in the first year. However, after longer term hormone use, the rate of second events was lower in current users than in never users (RR 0.38, 95% CI 0.22 to 0.66). Overall, with up to 20 years of follow up, the relative risk for a second event among current users of HRT was 0.65 (95% CI 0.45 to 0.95) compared with never users. So, HRT may be of benefit in secondary prevention of coronary heart disease.

1 Grodstein F, Manson JE, Stampfer MJ. Postmenopausal hormone use and secondary prevention of coronary events in the nurses' health study: a prospective, observational study. *Ann Intern Med* 2001;**135**:1–8
2 Hulley S, Grady D, Bush T, Furberg C, Herrington D, Riggs B, Vittinghoff E. Randomized trial of estrogen plus progestin for secondary prevention of coronary heart disease in postmenopausal women. Heart and estrogen/progestin replacement study (HERS) research group. *JAMA* 1998;**280**:605–13.

The post-code lottery: Where a person lives is not normally thought to be an independent risk factor for coronary heart disease. Using data from the atherosclerosis risk in communities study, the relation between characteristics of neighbourhoods and the incidence of coronary heart disease was examined. Even after controlling for personal income, education, and occupation, living in a disadvantaged neighbourhood was found to be associated with an increased incidence of coronary heart disease.

3 Diez Roux AV, Merkin SS, Arnett D, Chambless L, Massing M, Nieto FJ, Sorlie P, Szklo M, Tyroler HA, Watson RL. Neighborhood of residence and incidence of coronary heart disease. *N Engl J Med* 2001;**345**:99–106.

GENERAL CARDIOLOGY

An audible third heart sound indicates left ventricular diastolic dysfunction or bad valvar regurgitation: A study of 580 patients correlated the presence of S3 (heard consistently in 90% of cases) with echo assessment in patients with atrial regurgitation (AR), mitral regurgitation (MR) or primary ventricular dysfunction. Around 50% of patients with Echo proven left ventricular dysfunction and 15% with known AR or MR have an audible S3. In patients with ventricular dysfunction, it indicates diastolic dysfunction and a dilated ventricle as well as greater function regurgitation. In those patients with valve disease, it indicates higher pulmonary arterial pressures and worse regurgitation. Only for AR was S3 associated with reduced systolic function. Specificity for disease is high in the older population, with no normal patients having S3, but sensitivity was 25% for severe regurgitation and 50% for ventricular dysfunction.

1 Tribouilloy CM, Enriquez-Sarano M, Mohty D, Horn RA, Bailey KR, Seward JB, Weissler AM, Tajik AJ. Pathophysiologic determinants of third heart sounds: a prospective clinical and Doppler echocardiographic study. *Am J Med* 2001:**111**:96–102.

Wine is better than beer? The debate over the benefits of alcohol will continue, but which is the best form to take? The Danes suggest that wine drinkers are healthier, have higher IQs, and a higher socioeconomic status than beer drinkers in a study of 700 men and women aged about 30. This suggests that it would be harder to show any possible cardiovascular benefits of alcohol in a population in which beer is the favourite tipple.

2 Mortensen EL, Jensen HH, Sanders SA, Reinisch JM. A study of wine and beer drinking in young Danish adults. *Arch Intern Med* 2001;**161**:1844–8.

Being overweight is quantifiably bad for you: Being fat has a cultural stigma and is bad for your health. How bad? Data for the nurses health study and the health professionals follow up study suggests that a body mass index (BMI) > 35 gives a 20 fold increased 10 year risk of diabetes mellitus. Even being moderately overweight (BMI 25–29.9) increases the risk of gallstones (RR 1.4), hypertension (RR 1.7), hyperlipidaemia (RR 1.1), and heart disease (RR 1.4). Even in the "normal range" (18.5–25), a BMI at the higher end of the normal range (22–24.9) was worse for you than one at the lower end of the range (18.8–21.9). It seems clear that "ideal" body weights are a lot lower than found at present in the population. Women in these studies were more likely to be obese (BMI > 30 in 14.8 *v* 8.2% of men), but even more worrying perhaps is that 21% of women (nurses or health professionals) were current smokers, compared to 10% of men.

3 Field AE, Coakley EH, Must A, Spadano JL, Laird N, Dietz WH, Rimm E, Colditz GA. Impact of overweight on the risk of developing common chronic disease during a 10-year period. *Arch Intern Med* 2001;**161**:1581–6.

When to drive after a ventricular arrhythmia? The data for the AVID trial suggests that in patients surveyed nine months after a near-fatal ventricular arrhythmia, the risk of accidents (3.4% per patient-year) was lower than for the US population as a whole (7%). However, this questionnaire relied on participants telling the truth, and only dealt with those who felt up to driving in the year before entering the trial. The risk of driving when an automatic implantable cardioverter-defibrillator (AICD) is put in for softer indications, rather than failed sudden death as in the AVID trial, are probably not as high, suggesting that driving after AICD implantation may be safer than previously assumed.

4 Akiyama T, Powell JL, Mitchell LB, Ehlert FA, Baessler C, for the Antiarrhythmics versus Implantable Defibrillators Investigators. Resumption of driving after life-threatening ventricular tachyarrhythmia. *N Engl J Med* 2001;**345**:391–7.

DEPRESSION

Major depression is common and deadly in heart failure: In 374 patients with New York Heart Association (NYHA) functional class II heart failure or ejection fraction < 35%, 14% had major depression. Mortality overall was 16% at one year, but the presence of depression compared to its absence gave an odds ratio for death at one year of 2.23 (p = 0.04) and for readmission to hospital of 3.07 (p = 0.005). It is not known whether treatment of the depression would reduce the risk.

1 Jiang W, Alexander J, Christopher E, Kuchibhatla M, Gaulden LH, Cuffe MS, Blazing, Davenport C, Califf RM, Krishnan RR, O'Connor CM. Relationship of depression to increased risk of mortality and rehospitalization in patients with congestive heart failure. *Arch Intern Med* 2001;**161**:1849–56.

Patients with hypertension and depression are more likely to develop heart failure: A study of 4538 patients enrolled in the SHEP trial of hypertension in the elderly showed that 221 (5%) were depressed at baseline. After 4.5 years follow up, heart failure developed in 138 (3.2%) of 4317 non-depressed persons and in 18 (8.1%) of 221 depressed patients. After adjustment for

multiple variables, including myocardial infarction, the hazard ratio for depression was 2.82 (95% CI 1.71 to 4.67, p < 0.001). The explanation is not clear, although if you are depressed, you might be less likely to take your antihypertensive medication regularly.

9 Abramson J, Berger A, Krumholz HM, Vaccarino V. Depression and risk of heart failure among older persons with isolated systolic hypertension. *Arch Intern Med* 2001;**161**:1725–30.

HYPERTENSION

More data on ACE inhibitors for hypertension: A meta-analysis of five trials comparing angiotensin converting enzyme (ACE) inhibitors to placebo, and six trials comparing them to either nifedipine or a β blocker, for the treatment of hypertension in patients with non-diabetic renal disease showed that blood pressure was 4.5 mm Hg systolic and 2.3 mm Hg diastolic lower in the ACE inhibitor arm. In this group of 1800 patients, even after correction for differences in blood pressure, progression of renal disease was slower in the ACE inhibitor arm (RR for end stage renal disease 0.7, 95% CI 0.55 to 0.88). The benefit was most obvious if > 0.5 g/l proteinuria was present.

1 Jafar TH, Schmid CH, Landa M, Giatras I, Toto R, Remuzzi G, Maschio G, Brenner BM, Kamper A, Zucchelli P, Becker G, Himmelmann A, Bannister K, Landais P, Shahinfar S, de Jong PE, de Zeeuw D, Lau J, Levey AS, for the ACE Inhibition in Progressive Renal Disease Study Group. Angiotensin-converting enzyme inhibitors and progression of nondiabetic renal disease: a meta-analysis of patient-level data. *Ann Intern Med* 2001;**135**:73–87.

Another risk score: which one to use? The *BMJ* has published a risk score for use in patients with hypertension, based on the UK population. It would be worth seeing how this performs prospectively compared to the standard cardiovascular risk tables, which are all based on Framingham (US) data.

2 Pocock SJ, McCormack V, Gueyffier F, Boutitie F, Fagard RH, Boissel J-P. A score for predicting risk of death from cardiovascular disease in adults with raised blood pressure, based on individual patient data from randomised controlled trials. *BMJ* 2001;**323**:75–81.

BASIC RESEARCH

Unravelling the genetics of pulmonary hypertension: Primary pulmonary hypertension sometimes runs in families. Study is difficult as penetrance is often only 10–20%. One gene for it is the bone morphogenetic protein receptor II (BMP-II) which is part of the TGF β family. This gene has been found in a large number of familial cases and may be a cause in so-called sporadic cases also.

In a separate study, a subgroup of patients with hereditary haemorrhagic telangiectasia who get pulmonary hypertension appear to have a defect in ALK-1. This is a gene which is also involved in TGF β signalling. Both mutations may alter regulation of vascular proliferation, BMP-II acting on smooth muscle and ALK-1 via endothelial cells.

1 Newman JH, Wheeler L, Lane KB, Loyd E, Gaddipati R, Phillips JA, Loyd JE. Mutation in the gene for bone morphogenetic protein receptor II as a cause of primary pulmonary hypertension in a large kindred. *N Engl J Med* 2001;**345**:319–24.

2 Trembath RC, Thomson JR, Machado RD, Morgan NV, Atkinson C, Winship I, Simonneau G, Galie N, Loyd JE, Humbert M, Nichols WC, Berg J, Manes A, McGaughran J, Pauciulo M, Wheeler L, Morrell NW. Clinical and molecular genetic features of pulmonary hypertension in patients with hereditary hemorrhagic telangiectasia. *N Engl J Med* 2001; **345**:325–34.

Journals scanned—American Journal of Medicine; American Journal of Physiology: Heart and Circulatory Physiology; Annals of Emergency Medicine; Annals of Thoracic Surgery; Archives of Internal Medicine; BMJ; Chest; European Journal of Cardiothoracic Surgery; Lancet; JAMA; Journal of Clinical Investigation; Journal of Diabetes and its Complications; Journal of Immunology; Journal of Thoracic and Cardiovascular Surgery; Nature Medicine; New England Journal of Medicine; Pharmacoeconomics; Thorax.

Reviewers—C Baker, E Barnes, V Bhatia, R Desilva, M Earley, K Fox, D Gorog, G Jenkins, R Kaprilian, A Kapur, M Khan, P Lambiese, V Markides, M Poullis, P Ramrakha, J Strange, B Wasan, H Walker.

STAMPS IN CARDIOLOGY

Ambulances

Ambulances have featured occasionally on the world's postage stamps usually as part of the design of a war charity or Red Cross/Crescent stamp. On some occasions other specific ambulance organisations have been the theme—an example being the four stamps from Great Britain in 1987 to commemorate the centenary of the St John Ambulance Brigade. The modern stamp from Uruguay in 1997 was issued to mark the 18th anniversary of United Coronary Mobile stated as the first mobile medical emergency unit in the world. This is the only stamp ever issued relating to mobile coronary care. The stamp is relatively unusual being a peelable self-adhesive stamp—although self-adhesives are becoming more frequently issued nowadays.

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